

ANGLED GRIPPING JOINT COMBINATION FOR SUPPORT STRUCTURES

CLAIMS

I claim:



1. An angled gripping joint combination for support structures, comprising a U-beam top joint with lumber end gripper and a U-beam splay bar for use with a pair of lumber legs and a lumber cross-beam, the U-beam top joint having a side U-beam⁽¹⁾ and a side bracket beam⁽²⁾ joining a pair of spaced inward facing end brackets, each such bracket in conjunction with each side bracket beam being adapted to abut three sides of a lumber leg while allowing a fourth side of the lumber leg free to pivot away from the bracket until pressing a top edge of the fourth side against the lumber cross-beam when the lumber cross-beam is positioned on the side beams, each such bracket having an inward facing lumber leg pivot surface that is at an obtuse angle with respect to a top surface of the side bracket beams, the U-beam splay bar having at each end thereof a spaced pair of outward facing end brackets, each having an outward facing lumber leg guiding surface that is fixed with respect to the bar at a like obtuse angle to that of an inward facing end bracket with respect to the top surface of the side bracket beams.
2. The angled gripping joint combination of Claim 1, in which there are side enclosing brackets affixed to the side beam of the U-beam top joint.
3. The angled gripping joint combination of Claim 1, in which there are side enclosing brackets affixed to a side of the U-beam splay bar.
4. The angled gripping joint combination of Claim 1, in which there are side enclosing brackets affixed to the side beam of the U-beam top joint and side enclosing brackets affixed to a side of the U-beam splay bar.
5. The angled gripping joint combination of Claim 4, in which the outward facing brackets each have a pair of parallel flanks, one flank each on opposite sides of and extending perpendicular to the outward facing lumber leg guiding surfaces.

6. The angled gripping joint combination of Claim 5, in which the parallel flanks have holes through which a retaining nail could be inserted into a lumber leg.

7. A sawhorse combination comprising a pair of the angled gripping joint combination of Claim 6, a lumber cross-beam, and four lumber legs.

8. The method assembling a sawhorse comprising the steps of

- a) placing a U-beam top joint with a lumber end gripper upsidedown across an end portion of a lumber cross-beam, with inward facing end brackets protruding respectively over each side of the lumber cross-beam;
- b) inserting a top portion of an inverted lumber leg into each inward facing end bracket such that top portions thereof flank the lumber cross-beam;
- c) placing a U-beam splay bar between middle portions of the lumber legs such that U-beam splay bar's outward facing lumber leg guiding surfaces align with respective inward facing end brackets of the top joint;
- d) pressing down on the U-beam splay bar until it forces the middle portions apart and pivots top portions of the lumber legs against the lumber cross-beam and the sawhorse becomes rigid;
- e) putting retainers through flanks of the outward facing end brackets and into the lumber legs;
- f) repeating steps a) through e) with another top joint, pair of lumber legs, and U-beam splay bar at an opposite end of the lumber cross-beam;
- g) turning upright the sawhorse.

9. The combination of a pair of the sawhorse joint combination of Claim 7, in which two of the four top joints have a support ledge

formed by a U-beam to which a chopsaw base can be bolted.

10. The method of using a pair of sawhorse joint combinations to assemble a chopsaw table, comprising the steps of:

- a) repeating the steps of Claim 8 for each sawhorse joint combination;
- b) aligning two lumber cross-beams with two support ledges adjacent and spaced a chopsaw base apart;
- c) bolting a chopsaw onto the ledges between two sawhorses;
- d) inserting lumber fence support beams into side enclosing brackets of at least two of U-beam top joints, perpendicular to the two lumber cross-beams.

11. The angled gripping joint combination of Claim 7, comprising four additional lumber legs, each additional lumber leg being longer than each of the four lumber legs.

12. The method of assembling assemble a scaffold support, comprising the steps of Claim 8 and additionally doubling up a long lumber leg with a short lumber leg and extending a top portion of each of the long lumber legs above a top portion of the respective short lumber legs to provide four gripping edges at each end of a cross-beam in a joist orientation on the top joints.

13. A combination in which a pair of the angled gripping joint combination of Claim 7 are aligned width-wise and joined by lumber lengths inserted perpendicular to the lumber cross-beams through aligned side enclosing brackets on the respective sets.

14. A combination in which a multiplicity of the angled gripping joint combination of Claim 7, form a bench and table structure with lumber lengths inserted through side enclosing brackets affixed to side beams of U-beam top joints of at least one bench structure and inserted through side enclosing brackets affixed to sides of U-beam splay bars of at least one table structure aligned therewith.